

**REMARKS**

Upon entry of the accompanying amendment, claims 1 and 3-11 will be all the claims pending in the application. Claim 1 has been amended to more clearly set forth the claimed feature of the invention by incorporating the features of claim 2. Claim 2 is canceled accordingly. Now new matter has been introduced and entry of the amendment is respectfully requested.

Applicants thank the Examiner for acknowledging Applicants' claim for foreign applications and the receipt of a certified copy of the foreign applications.

Applicants further thank the Examiner for returning an initialed copy of the SB 08 Forms submitted on April 17, 2006 and July 18, 2006.

**Rejection of Claims 1-11 under 35 U.S.C. 112, first paragraph**

In the Office Action, claims 1-11 are rejected under 35 U.S.C. 112, first paragraph, as allegedly failing to comply with the written description requirement and the enabling disclosure requirement.

In particular, the Office asserts that the phrase "derivative thereof" of the limitation "silybin or a derivative thereof" and "extract containing silybin or derivatives thereof" lacks adequate written description and enabling disclosure, especially given the enormous permutation of potential compounds such silybin derivatives read upon. The Office has suggested that the phrases "or derivative thereof" and "or derivatives thereof" be omitted from the claim language.

Applicants disagree with the Office's position because that the specification fully describes several examples of a derivative of silybin such as silycristin, silydiamin or isosilybin.

However, solely in order to advance the prosecution, Applicants amend claim 1 to define the silybin derivative is silycristin, silydiamin or isosilybin.

Therefore, the amendment renders the rejection moot, and its withdrawal is respectively requested.

**Rejection of Claims 1-11 under 35 U.S.C. 112, second paragraph**

In the Office Action, claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, the Office asserts that the phrases "silybin or derivative thereof" and "extract containing silybin or derivatives" render the claims vague and indefinite, because, other than the silybin derivative being silycristin, silydiamin, or isosilybin, it is unclear what the cited phrases "silybin or derivative thereof" and "extract containing silybin or derivatives thereof" are actually defining.

While not conceding the rejections, claims 1 and 4 have been amended to more clearly set forth the term "derivative" by reciting that the derivative is silycristin, silydiamin or isosilybin.

Furthermore, Applicant respectfully submit that it is well known to those skilled in the relevant art that certain silybin derivatives such as silycristin, silydiamin and isosilybin biochemically behave like silybin, and they can be used for *in vivo* therapy that uses silybin.

Accordingly, the rejection is rendered moot by the amendment and its withdrawal is respectfully requested.

**Provisional Double Patenting and 35 U.S.C. § 103(a) Rejections**

In the Office Action, claims 1-11 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-6 of copending Application No. 10/536,351 in view of Woo *et al.* (US 6,428,821) (“Woo”).

Claims 1-11 are also rejected under 35 U.S.C. 103(a) as being obvious over in view of Kim *et al.* (J. Controlled Release, 2001) (“Kim”).

Woo is relied upon to teach an oral microemulsion composition (for use in treating/protecting the liver) comprising silybin or derivative thereof and/or a *Carduus marianus* extract containing silybin or derivatives thereof, in combination with a co-surfactant, a surfactant, and an oil (within overlapping and/or similar ratios to those instantly claimed), and that such a microemulsion composition provides for better bioavailability and solubility (e.g., improved wetting). The Office admits that Woo does not teach the further incorporation of BDD therein.

Kim is relied upon to teach a microemulsion composition containing BDD which comprises an oil, a surfactant, and a co-surfactant for improving the solubility and bioavailability thereof. The Office asserts that Kim further discloses that such a composition is useful for treating liver diseases and/or hepatic injury, and thus it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to further include BDD within the a microemulsion composition such as that taught by Woo because Woo teaches that their composition is useful in treating/protecting the liver and Kim et al. disclose that BDD is useful in treating liver diseases and/or hepatic injury. The Office further asserts that, conversely, it would have been obvious to further include silybin (or derivative thereof) and/or a *Carduus marianus* extract containing silybin within the a microemulsion composition such as that taught

by Kim because Kim teaches that their composition is useful in treating liver diseases and/or hepatic injury and Woo teaches that silybin or derivative thereof (or a *Carduus marianus* extract comprising silybin) is useful in treating/protecting the liver.

Applicants respectfully traverse.

Contrary to the Office's contention, Applicants respectfully submit that the microemulsion composition of the subject invention comprising 1) biphenyldimethyldicarboxylate (BDD) and 2) silybin or a derivative thereof, or a *Carduus marianus* extract containing silybin and derivatives thereof, as active ingredients, provides a greatly improved therapeutic effect for liver diseases without any adverse side effect or an antagonism, as compared to those disclosed in Woo and Kim which comprise either BDD (component 1)) or the *Carduus marianus* extract containing silybin (component 2)), only one single drug, as can be fully supported by Test Examples 1 to 6 (Tables 1 to 11) of the specification as originally filed.

Such beneficial effects of the subject invention correspond to synergistic effects due to the complementary work of the two active ingredients (components 1) and 2)) having different working mechanisms, not due to simple cumulative increase in the activity by their simple co-administration. The component 1) exhibits improved treating and preventing effects on liver diseases including acute/chronic viral hepatitis, a chronic liver disease and liver impairment by drug toxicity, and the component 2) has excellent activity in protecting liver cells from harmful effects and regenerating the liver cells.

In contrast, Woo and Kim are all silent on the above-mentioned inventive feature of the currently claimed invention, i.e., the specific combination of the (components 1) and 2)).

To further illustrate and demonstrate the benefit achievable by the subject invention, the applicants submit a declaration in accordance with 37 C.F.R. section 1.132 together with this response. This declaration shows the results of comparative experiments carried out with single administration of the inventive microemulsion formulations of Examples 1 to 5 and co-administration of two different microemulsion formulations, one comprising BDD and another comprising a *Carduus marianus* extract as an active ingredient, which illustrate that the single administration of the inventive microemulsion formulation provides clearly superior therapeutic effects for liver diseases owing to the synergistic effects of the two active ingredients, as compared to co-administration of the BDD and *Carduus marianus* extract microemulsions.

As described above, it is believed that the technical feature of claim 1 as well as the aforementioned beneficial effects arising therefrom are not taught, suggested or disclosed by the cited references, even if they are combined.

Accordingly, the subject invention defined in claims 1 and 3 to 11 is clearly patentable and unobvious over the cited references, and it is respectfully submitted that the provisional double patenting and § 103 rejections of claims 1 and 3 to 11 be withdrawn.

### CONCLUSION

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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